

Hysteretic Controlled Switch Regulator with Fixed Off Time

ABSTRACT OF THE DISCLOSURE

System for providing a switched regulator with an adjustable operating frequency range. A preferred embodiment comprises a voltage supply and a load, a switch and filter block (SFB) (such as the SFB 510), a comparator (such as the comparator 520), and a fixed off time logic (FOTL) (such as the FOTL 525). The comparator compares an output voltage with a reference voltage. When the output voltage is equal to or exceeds the reference voltage, the comparator asserts a value on a signal line to the FOTL. The FOTL then shuts down the SFB for a specified period of time. During the off time, the output voltage decays. After the specified period of time expires, the SFB is turned back on and the output voltage can recharge. The duration of time that the SFB remains on is a function of the supply voltage, thus permitting an adjustable operating frequency.